

FRESHWATER SEALS IN ALASKA AND CANADA

CHAD ARMENT

Although uncommon, there are several populations of seals around the world that are resident year-round in freshwater lakes. The Lake Baikal seal (*Phoca sibirica*) of Siberia is best known, and there are ringed seal subspecies endemic to lakes in Finland (*Phoca hispida saimensis* of Lake Saimaa) and Russia (*Phoca hispida ladogensis* of Lake Ladoga). Additionally, there is a seal (*Pusa caspica*) endemic to the brackish Caspian Sea. The Caspian Sea has a salinity approximately one third of typical seawater.

In North America, there are two recognized populations of harbor seals (*Phoca vitulina*) that live in freshwater lakes. One is in Iliamna Lake, Alaska, and the other is found in Lower Seal Lake of the Ungava peninsula of northern Quebec. This Ungava seal has been designated a distinct subspecies, *P. v. mellonae*, though some biologists have suggested that this population is composed of wandering seals from marine waters that migrate occasionally over land (Reijnders et al 1993). Because the populations in Iliamna Lake and Quebec are fairly small, and are of little economic importance (beyond some local subsistence hunting), research on them has been sporadic. There is still quite a bit that has yet to be uncovered about their biology. There are a few other questions regarding freshwater seals on this continent, also. Sometimes seals are reported from freshwater lakes or rivers where no populations are known. And, there is the mystery of the dwarf seals, reported from a lake in the Canadian Arctic Islands.

For most out-of-place seal mysteries here, we are dealing with the harbor seal, *Phoca vitulina*, which is so well-known for traveling up waterways that it is sometimes called the ranger seal. On the east coast, it was historically known to wander into Lake Champlain and Lake Ontario (Miller 1899). On the west coast, it sometimes follows a river as far inland as 300 kilometers (Baird 2001).

ILIAMNA LAKE SEALS

A population of Pacific harbor seals (*Phoca vitulina richardii*) is found in Lake Iliamna of southwest Alaska. Subsistence hunters catch seals here year-round (Fall et al 2006). A survey in the summer of 2008 noted that at least 235 seals were found in the lake. Local hunters say these seals are “fat and healthy” throughout the year, unlike the marine seals. This is probably due to a healthy diet of mostly salmonid fishes (Hauser et al 2008).

The biggest question has been whether all of these seals are year-round residents. Lake Iliamna is connected to Bristol Bay by the 75-mile-long Kvichak River. While some suggested that the seals retreat to the Bay during the winter, Withrow and Yano (2009) noted that “there are no known accounts of immigration or emigration.” In 2008, a photographer, Scott Dickerson, posted a photo on his blog showing seals on Iliamna Lake taken on March 9 of that year. An ecotourism facility on the lake, Rainbow Point Lodge, noted on their website (2011) that they went on a “mid-winter expedition” and successfully located seals. However, Withrow et al (2011) ran six aerial surveys from April to November in 2010, and concluded that while “seals do pup in the lake and some seals obviously over-winter, ... it seems unlikely that most seals do.” While more than 200 seals had been found during the aerial surveys in late spring and summer, they only found a handful of seals in late fall and early spring.

UNGAVA SEAL

Following up rumors that seals lived in the inland lakes of Quebec’s Ungava peninsula, a 1938 expedition sponsored by the

Carnegie Museum set out to investigate these stories and explore the region (Twomey and Herrick 1942). The trip was instigated by a sealskin handy-bag noticed by scientist J. K. Doubt while he was working on the Great Whale River in 1935. It appeared to be different from the common harbor seal, and the Native Canadian who owned it said it was made from a *kasagea*, from the Seal Lakes in the interior of the Ungava peninsula, “almost two hundred miles inland and fully eight hundred feet above sea level.” (The instigating bag turned out to be a red herring, being from a harp seal (Doubt 1942).) Prior to this point, while biologists had accepted that seals might be present in the Seal Lakes (Doubt 1942), they had no idea that a seal distinct from the marine population of harbor seals might be responsible for sightings. Doubt and Twomey went on the 1938 expedition, and after numerous difficulties, finally managed to obtain a specimen. Eventually, Doubt (1942) described the Ungava seal as a subspecies of the harbor seal, *Phoca vitulina mellonae*. The recognized population lives in Lower Seal Lake of the Lacs de Loups Marins. There is native testimony that the seal was hunted, historically, in Upper Seal Lake, but it does not appear to be there now. The name Lacs de Loups Marins (Seal Lakes) itself goes back to French cartographer Nicolas Bellin in 1744 (COSEWIC 2007).

Regarding the ethnoknown name given for the Ungava seal, Twomey doesn’t state the exact provenance, but apparently it is an Inuit term, rendered *qasigiaq* in the COSEWIC (2007) report. The latter also notes that the Cree call the Ungava seal *nuchimu-achikw* or *achikunipi*. (Doubt (1954) gives the Cree name as “At-chook” or “At-chuk.”) The seal is described by the Cree as being smaller and darker than saltwater harbor seals, with different behaviors and a different taste (COSEWIC 2007). Fur-traders have traditionally noted that the freshwater seal skins are of finer quality than that of the marine seals.

Specimens are few, and there have only been a few detailed accounts of these seals in the scientific literature. Interestingly, one Ontario youth canoe-trip camp, Keewaydin Temagami, has visited the lake to look for seals on two occasions, during the early

summers of 2000 and 2005. The 2005 trip located several seals (Chapin 2005).

The designation of subspecies for this seal is still under contention. It was primarily differentiated due to “an unusually dark pelage and an enlarged coronoid process on the mandible ... and on the presumption that the population had been isolated for approximately 5,000 years, trapped by the Ungava peninsula’s isostatic rebound since the last ice age” (Smith, Lavigne, and Leonard 1994). Some biologists argue that the Ungava seal is not distinctive enough from marine populations of the harbor seal, and that it is likely just a population originated from lost seals that continues to be supplemented by occasional marine wanderers. A recent review of the subspecies (COSEWIC 2007) notes that “the balance of evidence indicates long-term, year-round residency in the Lacs des Loups Marins area.” Ungava seals pup much earlier than do marine harbor seals (COSEWIC 2007), which may indicate reproductive isolation. Certainly, a different reproductive cycle would make it very difficult for potential wanderers from the ocean to easily incorporate into the freshwater population.

Accurate population count is difficult to estimate, though probably is in the 100-600 individuals range, with fewer than 250 being mature (Reijnders et al 1993; COSEWIC 2007). The region’s Cree and Inuit note the seal can be found in “Lacs des Loups Marins, Petit Lac des Loups Marins, and Lac Bourdel, with some reports of animals having once been in Lac à l’Eau Claire” (COSEWIC 2007; Reijnders et al 1993). A wider range has been suggested by interviews with Inuit hunters by Hydro-Québec contractors, with sightings or killed seals from “Lac Guillaume-Delisle, Rivière Nastapoca, Rivière Boniface, Rivière Niagurnaq, Rivière Kuunga, Rivière Longland, Lac Tasialuk, and Lacs des Loups Marins” (COSEWIC 2007). The advent of rifle hunting apparently resulted in a reduced range for these seals, particularly in areas easily accessible by local Cree and Inuit hunters (COSEWIC 2007).

Mansfield (1967) noted that Inuit traditions noted a wider range for the seal in the Ungava peninsula. There are Inuit and Cree names for lakes in the area that point to the former presence of



PACIFIC HARBOR SEAL, CALIFORNIA (SHANE PARTRIDGE)



UNGAVA SEAL (DOUTT 1942)

seals (e.g. *Kasigialuk*, or big place of the harbor seal for Lake Minto). “When the rifle came the coastal harbor seals were heavily exploited, resulting in virtual isolation of the lake seals.”

Stories of big fish or cetaceans (grampus) in Ungava lakes may be mythification of seals, according to Harper (1961). For example, Low (1890) includes such in a brief overview of mythical beasts: “Allegorical animals are dreaded and propitiated by these Indians, the greatest among these is the big muskrat who travels under the snow, there is also a big beaver, and a big dog, who does not walk on the ground but upon the trees. In Mistassini is a large trout, so long that he cannot turn round, who causes all the storms on that lake by moving its tail. They have also enormous giants living in the solid rock.” Cabot (1920) mentions a Great Grampus “who raised tremendous seas and hauled boats under” in “Ungava Pond,” noting also “the term Great Grampus was a loose one, the proper name of this monster of the waters being O-mi-oo-áh-lik (boat wrecker). It lives in Ungava Pond, where the waves are always mountainous. One cannot see across it.”

One aspect to Ungava seal habitat will interest those investigating other northern air-breathing freshwater mystery animals. Douthett and Twomey reported (confirmed later by Smith and Horonowitsch (1987)), that at the start of winter, the initial freeze occurs when the lake is high, and the ice is particularly thick and well-anchored near the shore. As the winter progresses, the water levels drop, and there is breakage and refreezing (creating steplike ice sheets) further out from shore where the ice is unsupported. This may not be noticeable on the surface due to snowfall. This freezing pattern creates large air pockets under the ice along the shoreline, which is used by the seals to breathe and even leave the water while being protected from prying eyes above the ice.

LABRADOR

Given its close proximity to the Ungava seal population, it should be no surprise that similar reports came from lakes in Labrador, right “next door.”

Grenfell (1910) related that *Phoca vitulina* is found in many interior freshwater lakes, and “the Indians assert that these fresh-water seals never leave the lakes.” Strong (1930) noted the presence of seals at Seal Lake, Labrador, based on a paper from 1898 and possibly stories from local Naskapi hunters. Apparently, Douth also heard stories about seals from these lakes, as there was a brief news release from the summer of 1939, after his 1938 Ungava expedition. It stated:

“Carnegie Museum has extended its sub-Arctic expedition in the wilds of Eastern Labrador a month to investigate reports of a possible new species of seal. The museum was advised by J. Kenneth Douth, its curator of Mammalogy and co-leader of the expedition, that natives reported curious fresh-water seals, ‘larger, redder and of different shape’ than those known to science, in the interior of Labrador” (Anon. 1939). Unfortunately, it doesn’t appear that Douth collected anything substantial regarding such seals, as no mention is made in his 1942 monograph.

Interestingly, Strong (1910) also notes the folklore of two mythical otters at Seal Lake and Little Seal Lake: “Two old men of the Davis Inlet band claimed to have seen one of these animals, called *wen-tsúk-ah-més-e-téy-oh*, in Seal Lake (on the Nauscaupsee, not the Little Whale River drainage). The body was said to be blackish brown with white lower legs and feet, large ears, and the animal was of great size. It whistled *wheú-u-u*, on a low note, very much like the call of a quail, or so the Indians’ rendition of the call sounded. This animal has not been seen for many years, but an old story tells of an Indian who killed the young of this species and was pursued by the mother otter who could swim under land as well as water. According to the story, she killed the man who destroyed her young, but his companion escaped to tell about it. The other mythical otter is called *mis-ín-tsuk*, being about ten feet long and built almost exactly like a seal. It is said not to be dangerous unless attacked. One Davis Inlet man claims to have seen this animal in *atcagon napeesh* or Little Seal Lake (a short distance northeast of Seal Lake). Since harbor seals (*Phoca*

vitulina) are fairly common in these lakes, it seems probable that the Indians have combined the characteristics of seal and otter into this mythical conception. They have often killed seals there, but no one has ever killed one of these giant otters.” Investigator John Warms (forthcoming) has uncovered sightings in Manitoba regarding large otter-like animals (“water dogs”), suggesting that similar stories might be found in other Canadian provinces.

NUNAVUT

Robinson (1965) noted in his outdoors column that a reader photographed two seals while fishing at Edehon Lake, which was “at least 110 miles inland from the salt water of Hudson’s Bay.” The seals were estimated at 200-250 pounds and curious about their plane. (This area, now in Nunavut, was once part of the Northwest Territories.)

Sutton (1965) mentioned in his wildlife column several stories of seals seen over the years in the freshwater lakes along the Thlewiaza River just north of Manitoba. These included Nueltin Lake (in its northern arm), Sealhole Lake, and Edehon Lake. One early report was of a seal shot at Edehon Lake in 1927.

Mansfield (1967) also noted the presence of seals in these lakes along the Thlewiaza River, adding a report by a Caribou Inuit man who saw seals at the north end of Ennadai Lake. Because of these sightings, further study was made, and a brief report was later published (Beck et al 1970) on five seals reported by an aerial survey of the Thlewiaza River region. The report noted that while it was possible that seals lived in the freshwater habitat year round, they were not cut off from Hudson Bay.

MANITOBA

Harbor seals are known to travel up the Seal River (near Churchill) for two hundred kilometers or more.

In 1987, a black seal was reported by two individuals in the Winnipeg River. The NRD looked into it, as the sightings were “very detailed” and were from within 40 yards of the animal. They suggested that someone had released it into the area (Anon. 1987).

DWARF SEALS OF THE CANADIAN ARCTIC ISLANDS

Several years ago, I discussed (Arment 2004) a 1932 mention of dwarf seals in the folklore of the Copper Inuit on Victoria Island. Explorer Knud Rasmussen (1932) stated: "They have heard of dwarf seals, which are thought to live in the great lake of the Netsilik: Willistedt Lake. These seals are quite small but just like other seals. They are no bigger than that they can be carried in a game bag, and yet the bull seals smell just the same as real old bull seals." As I noted at the time, similar stories of small seals with mature characters can be found in the United Kingdom.

Since publishing this material, I ran across mention that the Eskimo Museum in Churchill, Manitoba, may in fact have a specimen of a dwarf seal. This was noted in a brief aside in the journal *Museum*, from 1980: "The dwarf seal is extremely rare, and the Eskimo Museum is perhaps the only one to possess a specimen." Details and provenance were not given. I have attempted to contact the current curator of the museum several times, but have not been successful in eliciting a response. Unfortunately, Churchill is off the beaten path, so a simple visit is out of the question. (It can be reached by plane or train, but not by car.) There is local ecotourism (polar bears, whale-watching, and the *Aurora borealis*), though, so perhaps some readers will visit in person and determine what exactly the museum has in its collection.

I also ran across an interesting phenomenon reported in a few seal species in the former Soviet Union (Heptner and Naumov 1996). It was asserted that when some young seals lost their suckling mothers or became ill, if they managed to stay alive, a lack of proper nutrition stunted normal growth. They remained "dwarfs." This was noted anecdotally for both ringed seals and Baikal seals. I haven't seen any other literature on this, so I can't vouch for its legitimacy, but it should be kept in mind as a possible explanation for dwarf seals.

REFERENCES

- Anonymous. 1939. [No Title]. Indiana, Pennsylvania, *Evening Gazette* (August 25): 2.

- Anonymous. 1987. Black seal baffles experts. Brandon, Manitoba, *Sun* (December 5): 25.
- Arment, Chad. 2004. *Cryptozoology: Science & Speculation*. Landisville, PA: Coachwhip Publications.
- Baird, Robin W. 2001. Status of harbour seals, *Phoca vitulina*, in Canada. *Canadian Field-Naturalist* 115: 663-675.
- Beck, Brian, Smith, Thomas G., and Mansfield, Arthur W. 1970. Occurrence of the harbour seal *Phoca vitulina* Linnaeus, in the Thlewiaza River, N.W.T. *Canadian Field-Naturalist* 84: 297-300.
- Cabot, William B. 1920. *Labrador*. Boston: Small, Maynard & Co.
- Chapin, Dave. 2005. In search of the elusive Kasagea: The freshwater seals of central Ungava. *The Tattler* [Keewaydin Temagami] (Fall):3-6.
- COSEWIC. 2007. *COSEWIC Assessment and Update Status Report on the Harbour Seal Atlantic and Eastern Arctic subspecies Phoca vitulina concolor and Lacs des Loups Marins Subspecies Phoca vitulina mellonae in Canada*. Ottawa: Committee on the Status of Endangered Wildlife in Canada.
- Dickerson, Scott. 2008. Freshwater seals of Iliamna Lake photographed. Blog. ScottDickerson.com/blog/2008/freshwater-seals-of-iliamna-lake-photographed/
- Doutt, J. Kenneth. 1942. A review of the genus *Phoca*. *Annals of the Carnegie Museum* 29(4): 61-125.
- Doutt, J. Kenneth. 1954. Observations on mammals along the east coast of Hudson Bay and the interior of Ungava. *Annals of the Carnegie Museum* 33: 235-249.
- Dunbar, M. J. 1956. The *Calanus* expeditions in the Canadian arctic, 1947 to 1955. *Arctic* 9(3): 178-190.
- Fall, James A., et al. 2006. Subsistence harvests and uses of wild resources in Iliamna, Newhalen, Nondalton, Pedro Bay, and Port Alsworth, Alaska, 2004. *Technical Paper No. 302*. Alaska Department of Fish and Game, Division of Subsistence. Juneau, Alaska: ADFG.
- Grenfell, Wilfred T. 1910. *Labrador: The Country and the People*. New York: MacMillan.

- Harper, Francis. 1961. Land and fresh-water mammals of the Ungava peninsula. *Miscellaneous Publications* (University of Kansas, Museum of Natural History) 27: 1-178.
- Hauser, Donna D. W., et al. 2008. Resident harbor seals (*Phoca vitulina*) in Iliamna Lake, Alaska: Summer diet and partial consumption of adult sockeye salmon (*Oncorhynchus nerka*). *Aquatic Mammals* 34(3): 303-309.
- Heptner, V. G., and N. P. Naumov, eds. 1996. *Mammals of the Soviet Union. Vol. II. Part 3. Pinnipeds and Toothed Whales*. Washington, D.C.: Smithsonian & NSF.
- Low, A. P. 1890. The Mistassini region. *Ottawa Naturalist* 4:11-28.
- Mansfield, Arthur W. 1967. Distribution of the harbor seal, *Phoca vitulina* Linnaeus, in Canadian Arctic Waters. *Journal of Mammalogy* 48(2): 249-257.
- Miller, Gerrit S., Jr. 1899. Preliminary list of the mammals of New York. *Bulletin of the New York State Museum* 6(29): 272-390.
- Rainbow Point Lodge. 2011. Fresh water seals. www.akrpl.com/seals.html
- Reijnders, Peter, et al. 1993. *Seals, Fur Seals, Sea Lions, and Walrus: Status Survey and Conservation Action Plan*. Gland, Switzerland: IUCN.
- Robinson, R. T. 1965. Rod & gun digest. Roblin, Manitoba, *Review*. (September 16): 4.
- Smith, Richard J., David M. Lavigne, and William R. Leonard. 1994. Subspecific status of the freshwater harbor seal (*Phoca vitulina mellonae*): A re-assessment. *Marine Mammal Science* 10(1): 105-110.
- Smith, T. G., and G. Horonowitsch. 1987. Harbour seals in the Lacs des Loups Marins and eastern Hudson Bay drainage. *Canadian Technical Report of Fisheries and Aquatic Sciences*. No. 1536.
- Strong, William Duncan. 1930. Notes on mammals of the Labrador interior. *Journal of Mammalogy* 11(1): 1-10.
- Sutton, R. W. 1965. R. W. Sutton's wildlife notebook. Winnipeg, Manitoba, *Free Press* (September 25): 26.

- Twomey, Arthur C., and Nigel Herrick. 1942. *Needle to the North: The Story of an Expedition to Ungava and the Belcher Islands*. Boston: Houghton Mifflin Co.
- Withrow, David E., and Kymberly M. Yano. 2009. Recent counts of freshwater seals in Alaska's Lake Iliamna. Poster. *Marine Science in Alaska: 2009 Symposium*. Anchorage, AK.
- Withrow, David, et al. 2011. Freshwater harbor seals of Lake Iliamna, Alaska: Do they pup and over-winter in the lake? Poster. *2011 Alaska Marine Science Symposium*. Anchorage, AK.